

Claims

[c1] 1. The Automatic Driver's Aide according to this invention consists of the processing unit that will function as programmed and/or designed in the circuit, only when the gas pedal detector detected that the engine is running faster than the set point. It will monitor and/or record the interval movement of the steering wheel, which received from the steering wheel movement detector. To analyze this signal as designed or programmed for this purpose. The Automatic Driver's Aide in this invention will come to assist the driver in driving and/or set off the alarm if there is no incoming steering wheel movement signal from the steering wheel movement detector for longer period of time than a certain fix time plus a maximum period of time of the steering wheel movement that recorded, which was proved in this invention that the driver is lacking of sufficient attention than required to operate the vehicle safely.

[c2] 2. The Automatic Driver's Aide according to claim 1 where the mentioned programmed and/or the designed circuit will be functioned from the input it received by divided up into 4 segments, which include the beginning

stage, learning stage, detecting stage, and the resetting stage.

- [c3] 3. The Automatic Driver's Aide according to claim 1 and claim 2, where the mentioned beginning stage is the time frame from the beginning when the engine is running faster than a set point or the engine is just increased in RPM. Within this period, the number of movement of steering wheel is in small amount, there will be no gathering of data from steering wheel, there will be no warning signal activated, or driver assist activated.
- [c4] 4. The Automatic Driver's Aide according to claim 1, claim 2, and claim 3, where the said learning period is the period follows the beginning period. This is the period that the processing program or circuit will monitoring and finding the longest movement period of the steering wheel for the purpose of recording it as a statistic data to compare with the following movement of the steering wheel after the Learning Stage. There is an exception to this movement data, the value must be closed to one another. If the movement period data is much longer than usual, it will be rejected.
- [c5] 5. The Automatic Driver's Aide according the claim 1, claim 2, and claim 4, where the mentioned detecting stage is the period of monitoring, looking for lack of

control. The processing unit will compare time frame of the steering wheel movement with the longest time frame as mentioned in claim 4. If the time frame is longer than the longest period mentioned in the claim 4 plus the fixed value, that the processing unit will activate the warning signal and/or the driver assist equipment.

- [c6] 6. The Automatic Driver's Aide according to claim 1 and claim 5, where the mentioned driver assist equipment consists of equipment that monitors the dividing lane line on the road. It sends the vehicle position data signal to the processing unit to be analyzed if the vehicle is in a position, as it should be or not. It will send a control signal to the steering wheel actuator for adjusting the position, until the vehicle is in the right position
- [c7] 7. The Automatic Driver's Aide according to claim 1 and claim 6, where the mentioned steering wheel actuator has clutch characteristics. It is able to rotate the steering wheel in either direction as commanded by the processing unit, and at the same time, the driver still remains in control of the steering wheel as desired.
- [c8] 8. The Automatic Driver's Aide according to claim 1 and claim 2, where the mentioned resetting stage is the stage during the engine runs slower RPM than a set point or as a reset pulse when the engine increased in its RPM.

At this stage, all activities such as alarm and driver assist equipment will be stopped; the recorded learning data will be deleted and ready to repeat the whole process again.